Reframing Digital Literacy Instructor Training: Using Universal Design for Learning to Reach ALL Adult Learners

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Purpose: To address the lack of adult digital literacy

- Globally

Accessing the Internet is critical for each person's participation in today's society.

Full implementation of Internet access, such as high-speed broadband, is a 21st century necessity and challenge.

Through the use of high-speed Internet (ie. broadband), economic growth, job creation, global competitiveness and better quality of life can be built.

To fully realize this potential, high-speed Internet must be fully accessible to ALL persons.

- Rhode Island

Currently, it is estimated that approximately 1 in 3 Rhode Island adults do not go online.

*This means that 1/3 of our population does not have access to job opportunities.*

One in three Rhode Islanders cannot access the abundance of services moving online (Social Security, TDI, GED, etc.), nor can they access resources that improve quality of life (health/medical information, health care registration, etc.)

Relevance

"General Principle: *For every one-point increase in the percent of U.S. households with broadband, nearly 300,000 jobs will be added to the economy.*" — Brookings Institution Study

Increased Broadband Adoption

Higher Skilled Workforce

Access to Opportunity

Better quality of life
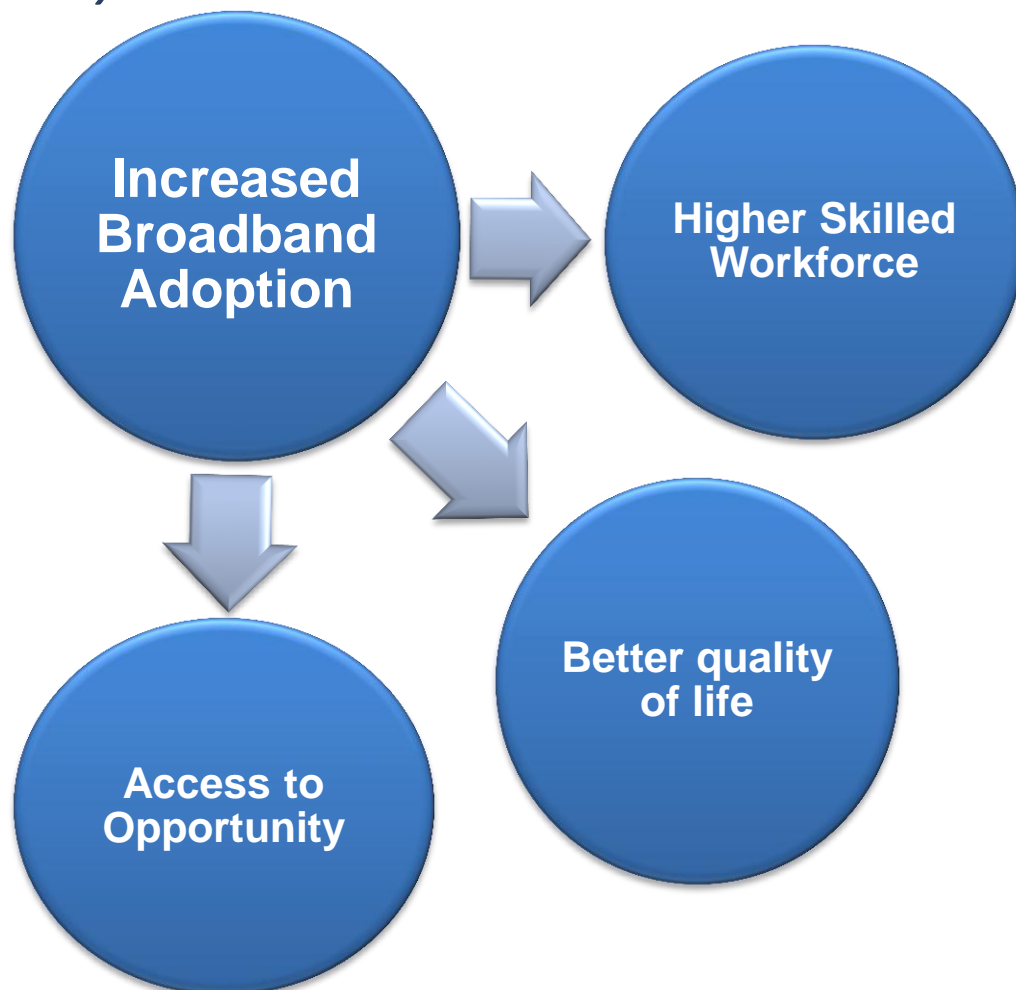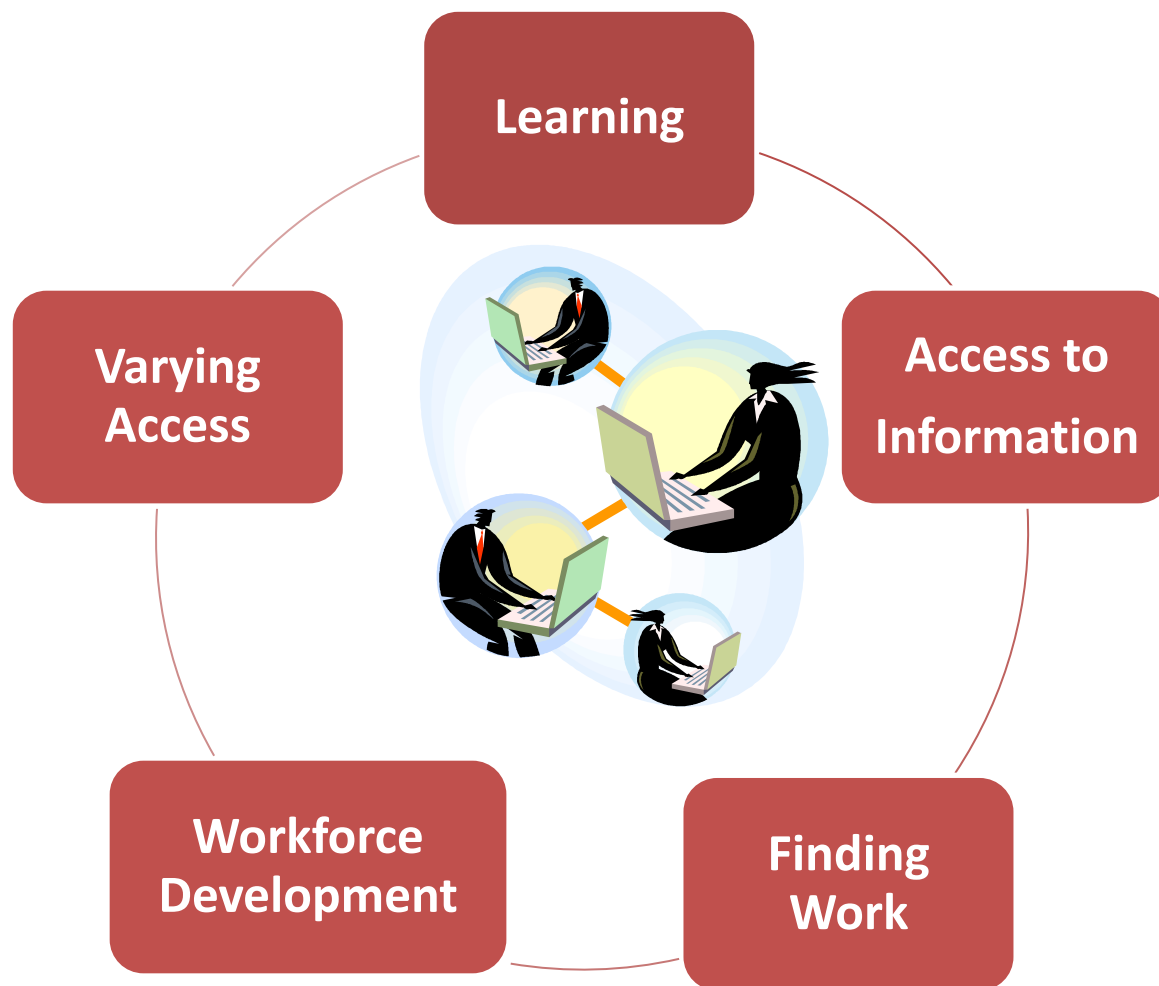
Digital literacy and access to information is critical to closing the digital divide and giving all citizens equal opportunity to jobs and connection to healthcare, safety, government, education, community – all contributing to a healthier economy.

Why Does Digital Literacy Matter?

Digital literacy matters because of the <u>opportunities</u> it creates.

Digital Literacy in Adult Education:
the next phase of adult learning for the 21st century

Procedures: How will adult digital literacy be accomplished?

Broadband RI Digital Literacy Program

- *Funded through the American Recovery and Reinvestment Act of 2009 (grants $$ to states)*
- Developed by *Broadband Rhode Island (BBRI),* an initiative of the *Rhode Island Economic Development Corporation (RIEDC)*
- Works to create new opportunities by expanding **broadband infrastructure & use** and **digital literacy** across Rhode Island

BBRI Digital Literacy Program
An initiative of Broadband Rhode Island

Early Model of Digital Literacy

Pre-Requisites (Mouse & Keyboard)

- Desktop Apps (MS Office)
- Oper Systems & Hardware
- Internet & Online Apps
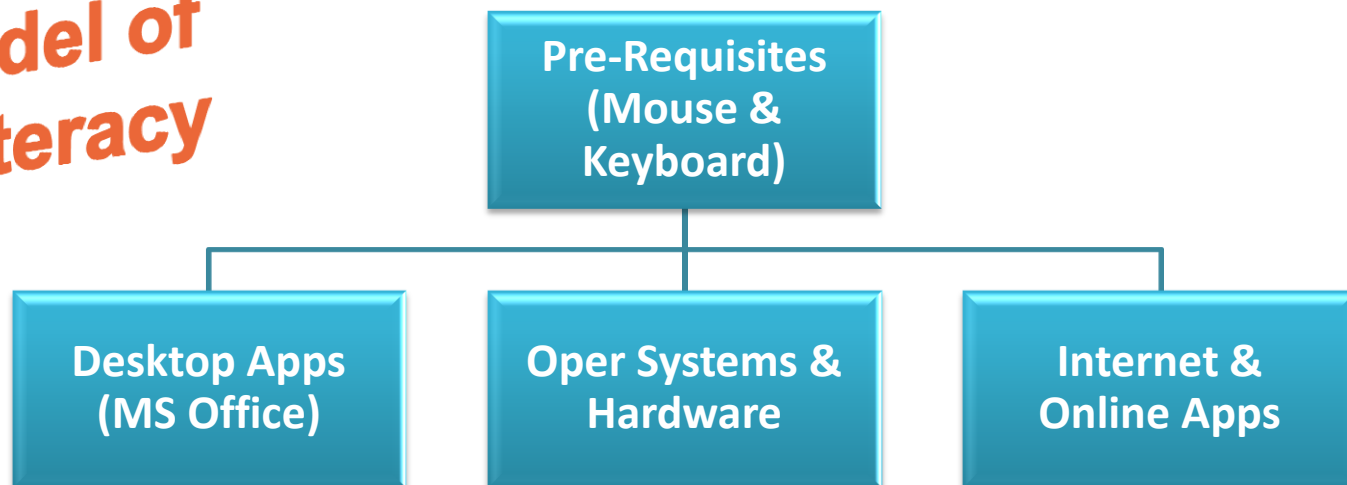
Recent Model of Digital Literacy

Pre-Requisites (Mouse & Keyboard) → Basic Internet Skills → Applications (Online & Desktop)

Issue: Program Accessibility for ALL

Initial curriculum:

- Instructors could not cover all materials in each session

- Students needed more help (high risk)

- Instructors did not understand how to help varied learners

- Original print curriculum – overwhelming and boring

- Need to vary formats & design to reach differing learners

Need for CURRICULUM RE-DESIGN using:

   The Principles of Universal Design for Learning (UDL)

UDL: Why??

People learn in different ways.

➢ Some are good readers

➢ Some are poor readers

➢ Some learn by listening

➢ Some learn by doing

➢ Some speak English

➢ Some speak other languages

➢ Some may not hear well

➢ Some may not see well

Everyone has ways in which they learn best!!

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UDL

Universal Design for Learning

What's it all about? Variation

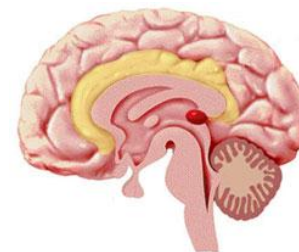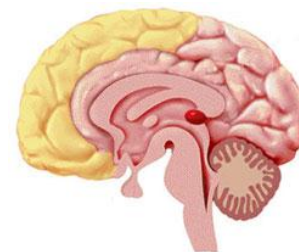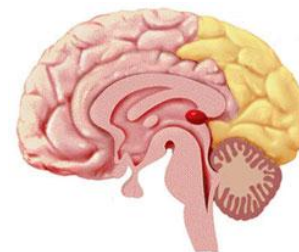SUPPORTS VARIATION
by applying
MULTIPLE MEANS
in
DESIGN AND DELIVERY of
INSTRUCTION

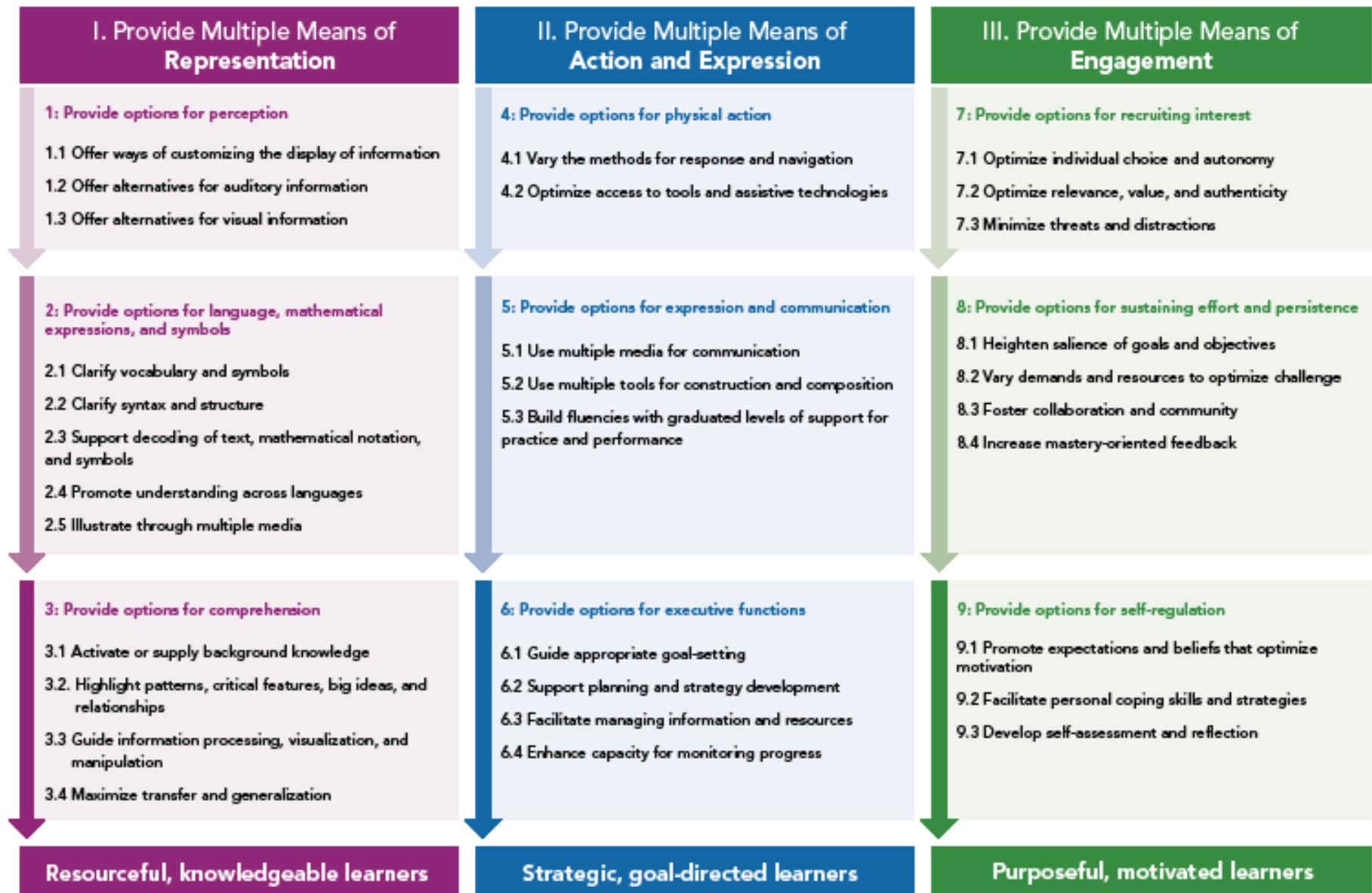Applied in a "Spiral Curriculum"

The 3 Core Principles of UDL

- **Multiple Means of Representation**
    - **To increase recognition**

- **Multiple Means of Action & Expression**
    - **To expand strategic output**

- **Multiple Means of Engagement**
    - **To enhance involvement**

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Universal Design for Learning Guidelines

I. Provide Multiple Means of **Representation**	II. Provide Multiple Means of **Action and Expression**	III. Provide Multiple Means of **Engagement**
1: Provide options for perception	**4: Provide options for physical action**	**7: Provide options for recruiting interest**
1.1 Offer ways of customizing the display of information	4.1 Vary the methods for response and navigation	7.1 Optimize individual choice and autonomy
1.2 Offer alternatives for auditory information	4.2 Optimize access to tools and assistive technologies	7.2 Optimize relevance, value, and authenticity
1.3 Offer alternatives for visual information		7.3 Minimize threats and distractions
2: Provide options for language, mathematical expressions, and symbols	**5: Provide options for expression and communication**	**8: Provide options for sustaining effort and persistence**
2.1 Clarify vocabulary and symbols	5.1 Use multiple media for communication	8.1 Heighten salience of goals and objectives
2.2 Clarify syntax and structure	5.2 Use multiple tools for construction and composition	8.2 Vary demands and resources to optimize challenge
2.3 Support decoding of text, mathematical notation, and symbols	5.3 Build fluencies with graduated levels of support for practice and performance	8.3 Foster collaboration and community
2.4 Promote understanding across languages		8.4 Increase mastery-oriented feedback
2.5 Illustrate through multiple media		
3: Provide options for comprehension	**6: Provide options for executive functions**	**9: Provide options for self-regulation**
3.1 Activate or supply background knowledge	6.1 Guide appropriate goal-setting	9.1 Promote expectations and beliefs that optimize motivation
3.2. Highlight patterns, critical features, big ideas, and relationships	6.2 Support planning and strategy development	9.2 Facilitate personal coping skills and strategies
3.3 Guide information processing, visualization, and manipulation	6.3 Facilitate managing information and resources	9.3 Develop self-assessment and reflection
3.4 Maximize transfer and generalization	6.4 Enhance capacity for monitoring progress	
Resourceful, knowledgeable learners	**Strategic, goal-directed learners**	**Purposeful, motivated learners**

CAST

UDL applied to increase relevance for adult learners

- UDL Step 1: Convert curriculum from "text-heavy" to be more engaging, visually-accessible, easy-to-use.

- UDL Step 2: Integrate content on UDL into the Instructor Workshop.

- UDL Step 3: Training scenarios representing a range of varied DL learners.

- UDL Step 4: Exemplary UDL models that support scenario activities.

- UDL Step 5: Vary instructional methods to model diversified instruction & exemplify UDL in practice.

- UDL Step 6: UDL resources via Digital Literacy Portal

The BBRI Digital Literacy "Core" Curriculum

Basic Internet Skills

- Navigation

- Search

- Communication

- Protection

- Exploration

Curriculum Components

- Browser and Website Basics

- Google and Library Resources

- Email

- Internet safety

- Capstone Class

Example from Instructor Training:
Simple ideas to integrate UDL

- **To vary means of REPRESENTATION**
  - **Use color to highlight key terms or ideas**
  - **Use pictures to reduce language barriers**
- **To vary means of ACTION & EXPRESSION**
  - **Encourage verbal restatement by students**
  - **Encourage demonstration to peers and to you**
- **To vary means of ENGAGEMENT**
  - **Help students relate content to their own lives**
  - **Have students share & support each other by working in pairs**

The Role of Technology in Digital Literacy Instruction for ALL

TECHNOLOGY SUPPORTS ACCESS.
TECHNOLOGY TRANSFORMS.

➢ Allows **manipulation** and **control** of format

➢ Offers **alternatives for access**

➢ Supports **multi-sensory** instruction

➢ Supports greater personal **independence**

➢ Use general technology & assistive technology together: recognizing a **continuum of access** available through technology

Microsoft Accessibility in Windows 7

- Personalization
  - High Contrast
  - Colors > Advanced appearance settings
  - Sounds
  - Mouse pointers
  - Display
- Ease of Access Center
  - Get recommendations
  - Explore settings
  - Magnifier
  - Zoom in Internet Explorer
  - On-Screen Keyboard
  - Narrator
  - Speech Recognition

Windows 7

Outcomes

- **Digital Literacy Curriculum** – English and Spanish
  - Online, Free for Use
- **BBRI Digital Literacy Portal**
  - Online, Many free resources
- **Trained DL Instructors** (volunteers, librarians & adult ed staff)
  - As of Oct 2013:   **117** instructors
- **Adult DL classes completed**
  - As of Oct 2013:   **61** full classes
- **RI Adults trained with DL curriculum**
  - As of Oct 2013:   **650** adults

Table 1: Sum average outcomes of BBRI DL instructor workshop: Pre and post assessment N=67 Scale=1(low) – 5 (high) Range=4.0 (as of March 2013)				
Curriculum Goal	Pre-assessment	Post-assessment	Degree of change	% of change (+)
Adult learning	3.5	4.1	+0.6	15.0
Learner variation & UDL	2.5	3.8	+1.3	32.5
Broadband access	3.6	4.1	+0.5	12.5
Team facilitation	3.3	4.2	+0.9	22.5
Online resources	3.5	4.2	+0.7	17.5
Online searching	3.8	4.3	+0.5	12.5
Search engines	3.9	4.4	+0.5	12.5
Email functions	3.9	4.3	+0.4	10.0
Student project	3.5	4.2	+0.7	17.5
Physical access	2.7	3.6	+0.9	22.5
Learning access	2.6	3.6	+1.0	25.0
Communication access	2.4	3.4	+1.0	25.0
Scheduling DL sessions	2.6	3.9	+1.3	32.5
Finding tools & resources	3.0	4.0	+1.0	25.0
AVERAGE	**3.2**	**4.0**	**+0.8**	**20.0**

Updated statistics

As of October 2013:

Pre & Post assessment of DL instructors (**N=117**)

Maximum score possible = 5.00

Cumulative Pre-assessment = **3.12** (average)

Cumulative Post-assessment = **4.04**

Difference = **+0.92** (of 1.88 possible for improvement)

Percent improvement (average) = **+49%** (self-assessed)

Future Expectations

- ## Impact on Adult Education
  - GED tech support, RI Adult Education Technology Plan
  - Technology Point Person (TPP) training
- ## Impact on Libraries
  - Partners in Institute for Museums and Library Services (IMLS) grant, **ALL Access in the Libraries** (as of Nov 2013)
- ## Impact on the field of Digital Literacy
  - Digital Literacy Portal
    - Free curriculum available online
    - Free digital literacy resources online

And finally…. A digitally literate adult community!

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RESOURCES

Broadband RI

website: http://literacy.broadband.ri.gov

TechACCESS of RI

website: http://www.techaccess-ri.org

Universal Design for Learning

websites: http://www.udlcenter.org & http://www.cast.org

online tool: http://udlwheel.mdonlinegrants.org/

Microsoft Accessibility

website: http://www.microsoft.com/enable/